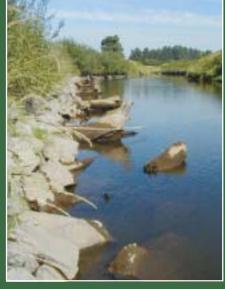
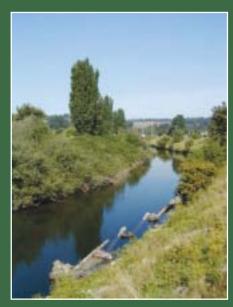
Green River Flood Control Zone District

2001 Annual Report

















# Green River Flood Control Zone District 2001 Annual Report

September 2002







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# Introduction and Background

The purpose of this annual report is to provide an accounting of the Green River Flood Control Zone District's (District) financial and work program activities in 2001. An annual reporting of District revenues and expenditures is required per Section 2.1.4 of the Green River Basin Program Interlocal Agreement (ILA), adopted June 30, 1992 by King County and the Green River Valley cities of Auburn, Kent, Renton and Tukwila. This report also provides a summary of the major maintenance and repair activities made to the District's flood protection facilities on the Green River in 2001.

In 1978, King County and the Green River Valley cities signed an interlocal agreement to form the Green River Basin Program (GRBP), which supported a comprehensive interjurisdictional flood control and drainage program for the lower Green River Basin. The Green River Basin Program interlocal agreement was extended in 1985 with concurrence from King County and the cities of Auburn, Kent, Renton and Tukwila to further coordinate flood hazard planning, coordination and implementation.

The 1992 interlocal agreement renewed the principles embodied in the 1978 and 1985 interlocal agreements and continued the Green River Basin Program for ten years. The GRBP formulates and recommends the annual work program and budget for the District for the following purposes: 1) to provide a vehicle for interjurisdictional and interagency coordination and cooperation for flood hazard reduction planning, programs and projects within the District; 2) to provide coordinated policy and technical advisory input to the District's work program and budget through the Executive and Technical Committees; and 3) to develop and implement contemporary standards and procedures for operating, maintaining and repairing river flood hazard protection facilities and pump stations within the District to maximize public health and safety consistent with the requirements of the Endangered Species Act and related resource management policies and regulations.

Prior to 1991, the Green River Basin Program was funded by a cost-share arrangement between King County and the Green River cities. The Green River Basin Program is now funded by District revenues.

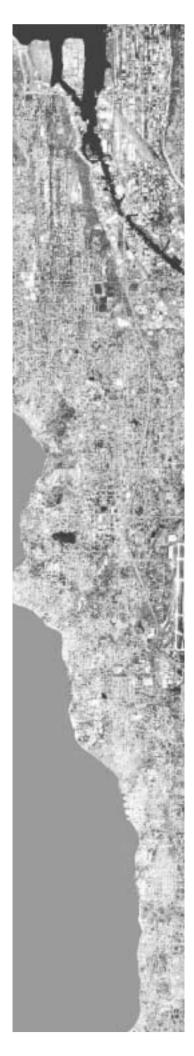
### Green River Flood Control Zone District

The Green River Flood Control Zone District was formed in 1960 by Resolution 31192 of the King County Board of Commissioners with concurrence from the affected lower Green River Valley cities and the District was activated in December 1990 by concurrence of these same parties. The purpose of the District is to provide a funding base for operation and maintenance of levees, revetments and pump stations on the Green River within the District's boundaries, and to fund administration of the Green River Basin Program.

The District encompasses areas within seven cities, five Metropolitan King County Council Districts, four State legislative districts, three Congressional districts and portions of unincorporated King County. Its boundaries approximate the drainage basin of the lower Green River Valley and contains some 44,000 acres. The District has a total assessed valuation in 2002 of \$17.1 billion. A map of the District is shown on page 8 of this report.

In accordance with state law regarding special purpose districts, the District is a quasimunicipal corporation legally separate from King County and an independent taxing authority of the State of Washington authorized by Chapter 86.15 of the Revised Code of Washington. However, the District's Board of Supervisors, by statute, is composed of the King County Council, who are expressly responsible for the governance of the District.





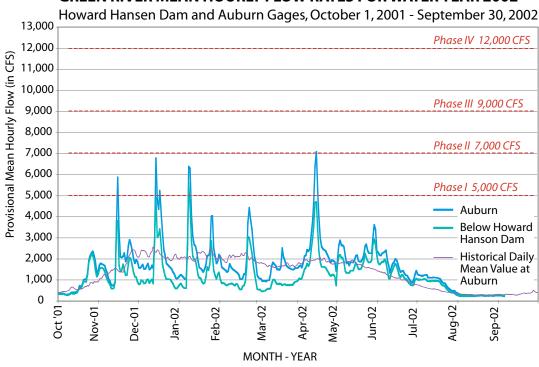
### **Precipitation and Flood Summary**

#### Flood Summary for Water Year 2002 (10/01/01–09/30/02)

The Green River experienced another year without any significant flood events largely due to the lack of precipitation and rain-on-snow events that are typically the cause of significant flood events. With more normal years experiencing an average of two to three flood events per season and Phase III flood events on average occurring once every two years, the 2001-2002 flood season was a more typical year than the previous few years.

As indicated on the graph below, the Green River exceeded the Phase I flood thresholds of 5,000 cubic feet per second (cfs) four times and the Phase II flood thresholds once during the entire 2002 water year as measured at the Auburn gauge. The Phase II high water event on the Green River occurred during the April 12, 2002 through April 17, 2002 time period when the Auburn gauge measured flows between 3,730 and 7,080 cfs with the maximum flow occurring on April 15, 2002. The majority of flow in the Green River is contributed from the upper watershed as a controlled release from Eagle Gorge reservoir at Howard Hanson Dam.

#### **GREEN RIVER MEAN HOURLY FLOW RATES FOR WATER YEAR 2002**



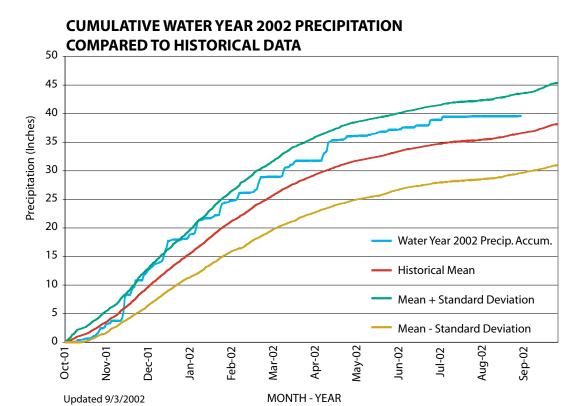
<u>Green River Near Auburn (USGS #12113000)</u>: At river mile 32.0, 1.8 miles downstream from Big Soos Creek. Drainage area is approximately 399 square miles.

<u>Green River Below Howard Hanson Dam (USGS #12105900)</u>: Located 0.7 miles downstream from Howard Hanson Dam with a contributing drainage area of approximately 221 square miles. Flows at this site are regulated by the operations of Howard Hanson Dam.

#### **2002 Water Year Precipitation Totals**

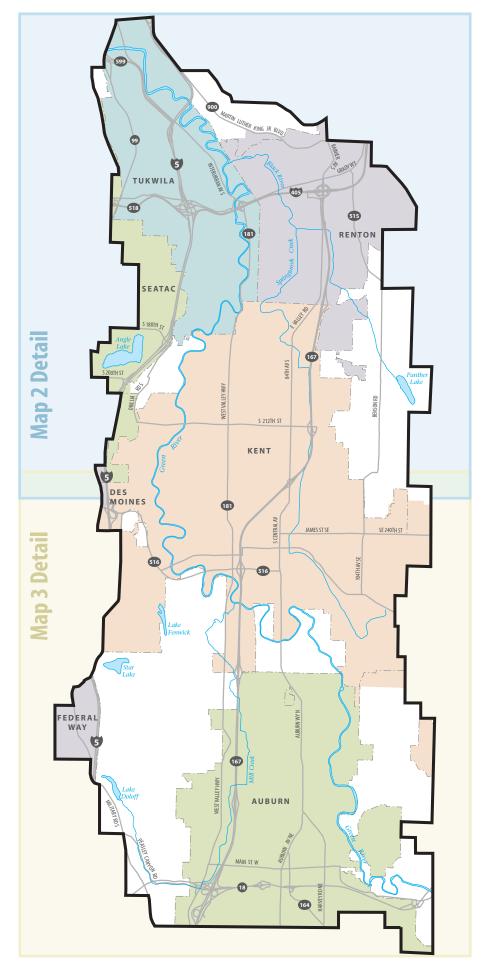
The Green River watershed, as well as other regions throughout Western Washington, received precipitation amounts generally ranging from 110- to 130-percent of normal for the 2002 water year since October 1, 2001. Locally, the basin wide percent of average in the Green, White and Puyallup watersheds was 115-percent above normal in 2001 - 2002. The additional precipitation resulted in above normal snowpack conditions as well as supplied water to the Green River.

Shown below are the accumulated precipitation at SeaTac beginning October 1, 2001 through September 3, 2002 for the current 2002 water year. In addition to precipitation accumulation totals and historical mean accumulated rainfall totals, standard deviations around the cumulative mean totals are also shown for the entire water year (October 1 – September 30). As the graph indicates, precipitation for the 2002 water year above the historical mean.



Updated daily at <a href="http://dnr.metrokc.gov/hydrodat/seatacprecip.asp">http://dnr.metrokc.gov/hydrodat/seatacprecip.asp</a>



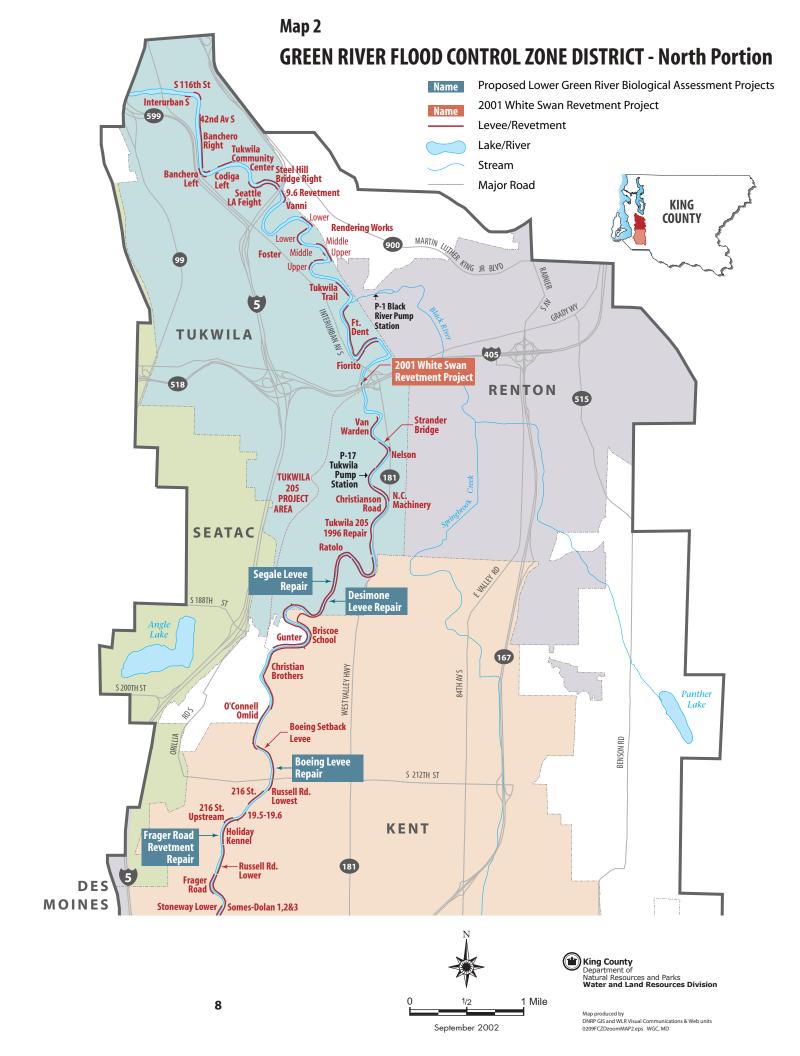


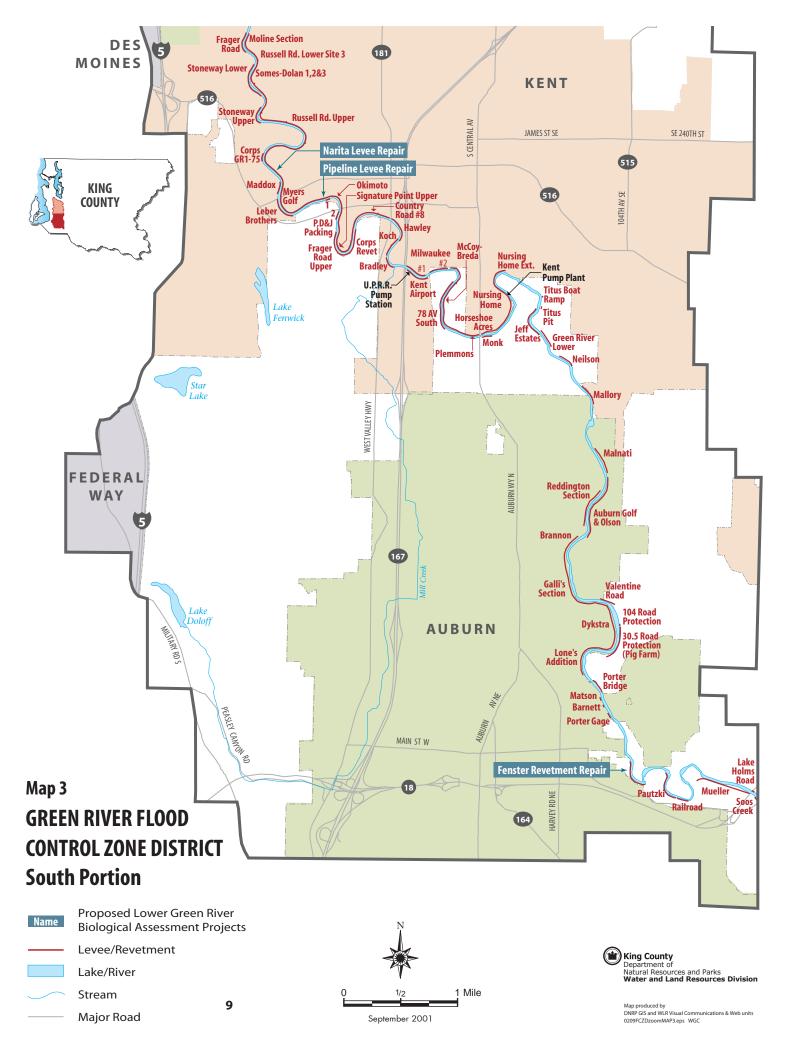
# Map 1 GREEN RIVER FLOOD CONTROL ZONE DISTRICT





Map produced by DNRP GIS and WLR Visual Communications & Web Unit 0209FCZDgeneralMAP1right.eps WGC



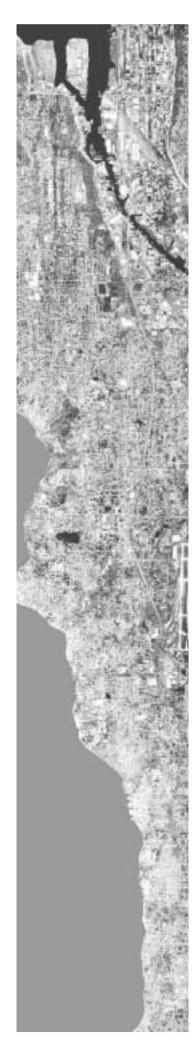


### 2001 Accomplishments

# **G**reen River Flood Control Zone District and Green River Basin Program work program accomplishments in 2001 included:

- Secured an additional \$83,050 in supplemental grant funds from the Washington State Department of Ecology's Flood Control Assistance Account Program (FCAAP) for the Boeing Setback Levee project that was completed in 2000 at a total cost of \$534,459. Together with the \$67,000 that was previously awarded for this project, the total amount of FCAAP grant funds leveraged for this project was \$150,050. This included grant agreement project closeout documentation and inspection with FCAAP staff.
- Finalized preparation of the Lower Green River Biological Assessment for Endangered Species Act Section 7 review with the U.S. Army Corps of Engineers, National Marine Fisheries Service and U.S. Fish and Wildlife Service for seven proposed 2002–2005 levee and revetment repair projects. Included ongoing cooperation and coordination with King County's Endangered Species Act Biological Review Panel in their evaluation of these projects as well as the development of a prioritized project list with involvement of the Basin Technical Committee.
- Coordinated the development of a preliminary risk-based analysis to determine
  potential flooding-related damage and the expected annual avoided damage costs to
  structures and contents that could occur in the District as a result of levee and revetment
  instability.
- Completed the Financing Alternatives Analysis for the District to evaluate preliminary alternative bond financing mechanisms for the District's major maintenance and operations projects, and to consider legal, financial, implementation and policy implications of each of the financing alternatives.
- Completed annual flood protection facility maintenance assessments in addition to a
  comprehensive examination of critical facilities following the February 28, 2001
  Nisqually Earthquake. Included inspections of the Section 205 Tukwila and Horseshoe
  Bend projects of the U.S. Army Corps of Engineers' Section 205 Program for
  preparation of the annual reports that are required by the U.S. Army Corps of
  Engineers. Also included inspection of earthquake-induced water main damages
  affecting the White Swan Revetment in Tukwila.
- Conducted vegetation management at selected flood protection facility sites to maintain their eligibility for the U.S. Army Corps of Engineers' PL84-99 emergency repair cost sharing program, including the Tukwila and Horseshoe Bend Section 205 projects.
- Continued the implementation of the monitoring and assessment program of completed and proposed major maintenance projects as required by local, State and Federal permits. The monitoring program provides essential baseline and post-construction data for project performance analysis and fish habitat utilization at project sites.
- Tracked results from smolt counter at the Black River Pump Station in cooperation with the cities of Kent and Renton, and the Muckleshoot Indian Tribe.
- Developed, monitored, and tracked ongoing budget and work program for the Green River Flood Control Zone District and Green River Basin Program including the preparation of the 2000 Annual Report.





- Coordinated and staffed ongoing Basin Technical Committee and Basin Executive Committee meetings and schedule.
- Provided administrative and technical assistance to the WRIA 9 Steering Committee
  and Project Committee including other salmon conservation planning efforts, activities
  and meetings, and representation of Green River flood management issues in these
  processes.
- Participate and coordinated project development with the U.S. Army Corps of Engineers on the Green/Duwamish Ecosystem Restoration Project for those projects that will affect mainstem Green River flood protection facilities.
- Provided ongoing daily operations and maintenance at the Black River, Tukwila and Southcenter pump stations. Included thorough inspection of the pump stations after the February 28, 2001 Nisqually Earthquake.
- Continued participation on an interagency Levee Vegetation Management Committee which was established to pursue a regional variance from the U.S. Army Corps of Engineers for PL84-99 standards for levee vegetation.
- Worked with King County's Office of Emergency Management to track project final project costs and provide documentation for federal flood disaster fund reimbursement. Included coordinating ongoing efforts for the Pipeline Damage Survey Report appeal with State and FEMA for additional funding requests for the project.
- Implemented the Flood Response Manual and Post-Flood Recovery Plan, including enhanced coordination with the Green River cities, U.S. Army Corps of Engineers, and organization of the annual Interagency Flood Preparedness meeting for the Green River.
- Repaired earthquake-induced water main failure washout damage to the White Swan Revetment along the left bank of the Green River at river mile 12.42 in Tukwila.

### 2001 Budget

#### **Authorized 2001 Budget**

The 2001 Green River Flood Control Zone District budget was approved in Resolution No. GR26, adopted by the Metropolitan King County Council on December 15, 2000.

The District's authorized budget was based on Basin Executive Committee's recommendations adopted at their October 12, 2000 meeting. The budget was based on \$783,007 in estimated District property tax levy revenues. Together with \$125,000 authorized to supplement river facility repairs from the District's undesignated fund balance, the total District budget authorized for 2001 was \$908,007. Per the Resolution, the District's budget was structured into the following categories:

#### **APPROVED 2001 BUDGET**

District Administration:	\$ 274,463
District Maintenance:	
P ump Station Operation and Maintenance	\$ 221,424
River Facility Repair Projects	\$ 186,857
Annual Routine Maintenance	\$ 49,963
Contribution to Designated Fund Balance:	
Local Flood Match Funds	\$ 11,000
P ump Station Equipment Repair/Replacement	<u>\$ 39,300</u>
Sub-total of Approved 2001 Expenditures:	\$ 783,007
River Facility Repair Projects – Transfer From Undesignated Fund Balance:	<u>\$ 125,000</u>
TOTAL APPROVED 2001 EXPENDITURES	\$ 908,007

#### **Ad Valorem Tax Levy**

This District is funded by an ad valorem tax levy on all properties within its boundaries. The District levy rate in 2001 was 0.04998 cents per \$1,000 of assessed valuation. Therefore, for example, the owner of a \$200,000 home in the District paid approximately \$10.00 to the District levy, a decrease of \$0.41 from 2000. The 2001 levy was held to Implicit Price Deflator (IPD) levels as established by Referendum 47. In 2001 the IPD was 2.61%. Actual 2001 District collections totaled \$773,954. The difference between projected and actual collections is due to various factors which affect general property tax collections (e.g., property value fluctuations, delinquencies, new construction, and tax refunds).

For a full accounting and description of the District's actual expenditures, revenues, and year-end 2001 fund balance total, see the 2001 Year-End Revenue and Expenditure Report and the 2001 Year-End Fund Balance sections of this report on pages 16, 17, and 23.





White Swan Revetment Repair River Mile: 12.42, Left Bank

Cost: \$ 48,580

As a result of continued project review by the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers to approve the seven major maintenance projects proposed in the Lower Green River Biological Assessment, the White Swan Revetment repair was the sole project completed by the District in 2001 at a cost of \$48,580. This project went ahead without federal agency review because all work was performed outside the Ordinary High Water Mark (OHWM) of the river.

The White Swan Revetment is located along the left bank of the Green River immediately upstream of the Interurban Avenue Bridge, extending upstream to Interstate 405. A portion of the revetment at River Mile 12.42 was severely eroded by flows from a broken water main located within the City of Tukwila's paved Green River Trail, located just above the slope of the riverbank. The water main ruptured due to the February 28, 2001 Nisqually Earthquake, spilling water down the steep slope and carving several three-foot deep gullies into the face of the riprap covered revetment slope. Damages to the revetment extended for a length of about fifty feet along the riverbank, and reached from the crest of the slope at the edge of the paved trail to the OHWM of the Green River. Erosive flows dissipated when they reached the river level, therefore the revetment toe buttress below the OHWM was not damaged. Repairs were therefore limited to the portion of the slope above the OHWM.

Repairs to the broken water main and restoration of the recreational trail were accomplished by the City of Tukwila, which then requested the Green River Flood Control Zone District to design and construct repairs to restore the eroded riverbank to a stable condition. Design of the repairs was constrained both by the presence of the paved trail, limiting setback options, and by the need to avoid encroaching into the water column at the toe of the revetment slope.

These constraints required that the repairs be constructed from the top of bank with a specially equipped track hoe, fitted with a long-reach arm, in order to reach down to the base of the repair area, just above the OHWM. Eroded soils and riprap facing were excavated to create a series of horizontal "steps" cut into the slope. Each of these was then used to place a layer of soil planted with live willow cuttings and supplemented with a variety of potted native riparian shrub and tree species. Each of these planting layers was then covered with additional lifts of fill, each wrapped with a facing of biodegradable coconut fiber erosion control fabric, known as "coir." The series of alternating planting and wrapped fill lifts is commonly called a "live geogrid." This geogrid structure was carried in seven layers to the top of the



The repaired facility experienced high flows shortly after its completion in early November however no additional damage occurred (Nov. 16, 2001).



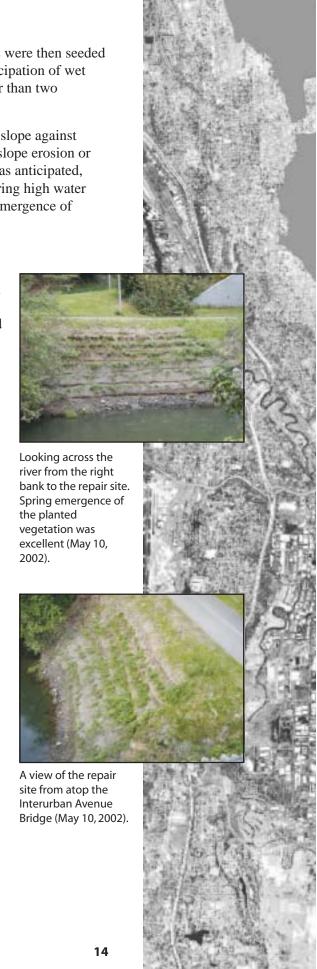
Seven layers of live geogrids with willow cuttings were installed between the ordinary high water mark and the top of the riverbank (Nov. 16, 2001).

riverbank along the shoulder of the paved trail. All disturbed soil areas were then seeded and covered with straw mulch for additional erosion protection in anticipation of wet winter weather. The slope was finished at a slope angle slightly steeper than two horizontal feet for every vertical feet of slope (2H:1V).

The finished repair will provide for ongoing stability of the revetment slope against erosion, from both river flows and from up-slope runoff. No signs of slope erosion or instability have been in evidence, other than minor settling of the fills as anticipated, despite near-total inundation of the repair site on several occasions during high water events over the past winter. Plant survival over the winter and spring emergence of vegetation has been excellent.

As the planting layers mature they are expected to provide overhanging shade cover and vegetation trailing into the water column, enhancing both riparian and instream habitat values. This will provide for lower near-bank velocities, recruitment and deposition of flood-borne sediments, production of nutrient inputs to the stream, and both low-flow resting niches and flood-stage refugia for juvenile salmonids.

The City of Tukwila has requested reimbursement on behalf of the Green River Flood Control Zone District from the Federal Emergency Management Agency's Public Assistance Program following the Presidential disaster declaration of the Nisqually Earthquake. Up to 87.5% of the project's costs could be reimbursed to the District.





# 2001 Year-end Revenue and Expenditure Report

#### 2000 Year End Fund Balance

The District's 2001 Budget started with a fund balance as of December 31, 2000 of \$751,694, as reported in the District's 2000 Annual Report. Of this amount, \$446,330 was set-aside in a designated fund balance allotment for pump station repairs and equipment replacement in the amount of \$348,723 and the balance of \$97,607 as a source of matching funds to leverage potential future state and federal assistance for flood damage repairs. The remaining \$305,364 of fund balance was undesignated.

#### **Actual 2001 Revenue**

The total District revenue in 2001 totaled \$923,145. This included \$773,954 in actual levy and tax revenues – \$9,053 less than projected in the adopted 2001 budget; \$56,684 in interest income from the designated and undesignated fund balance; \$83,050 in supplemental grant funds from the Washington State Department of Ecology for the Boeing Setback Levee project that was completed in 2000; and \$9,457 in other miscellaneous income and interfund cash transfers.

#### **ACTUAL 2001 REVENUE**

Source of Revenue	<u>A m ount</u>
2001 Actual Levy and Tax Revenues:	\$ 773,954
Interest Income from Designated and Undesignated Fund Balance:	\$ 56,684
Washington State Department of Ecology Grant Funds:	\$ 83,050
Miscella neous Income and Interfund Cash Transfers:	<u>\$ 9,457</u>
TOTAL DISTRICT REVENUE	\$ 923,145

#### **Actual 2001 Expenditures**

The combined District administration and maintenance expenditures during 2001 totaled \$608,839. These expenditures and charges are divided into two separate budget categories: (1) administration, which includes Green River Basin Program and Green River Flood Control Zone District management, and designated and undesignated fund balance contributions; and (2) maintenance, which includes pump station operations and maintenance, major river facility repairs, annual routine maintenance, and preparation of the Lower Green River Biological Assessment. During 2001, \$285,575 was spent on administration activities and \$323,264 on maintenance. These actual expenditures are further detailed on the following page:

#### **ACTUAL 2001 EXPENDITURES**

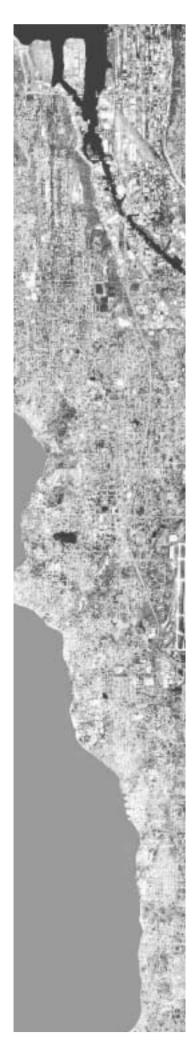
<u>A dministratio n</u>	·	
Program/District Management:	\$ 221,140	
Contribution to the Designated Fund Balance:		
Local Flood Match Funds	\$ 11,000	
Pump Station Equipment Repair/Replacement	\$ 39,300	
Tax Delinquent Land Purchase (3.88 Acres on Mill Creek)	<u>\$ 14,135</u>	
Administration Sub-total = \$ 285,575		
<u>Maintenance</u>		
Pump Station Operation and Maintenance:	\$ 184,993	
Major River Facility Repair Projects:	\$ 48,580	
Annual Facility Maintenance:	\$ 28,104	
Lower Green River Biological Assessment Preparation and Monitoring Program:	<u>\$ 61,587</u>	
Maintenance Sub-total = \$ 323,264		
TOTAL PROGRAM EXPENDITURES	\$ 608,839	

#### **District Program Administration**

Program and District administrative expenditures in 2001 supported two full-time staff positions, one for program coordination and one for engineering. The administration budget for this staff provided support to all District activities including:

- coordination of major and annual routine maintenance related work for various projects (e.g., site investigations, survey, engineering design, permit applications and coordination, project management);
- grant applications and management (e.g., Washington State Department of Ecology Flood Control Assistance Account Program);
- annual budget development, analysis and tracking;
- preparation of annual budget resolutions;
- technical assistance to lower Green River Valley cities and other resource agencies such as the U.S. Army Corps of Engineers, the Soil Conservation Service, and the United States Geological Survey;
- preparation of District's 2000 Annual Report;
- participation and coordination with other Green/Duwamish (WRIA 9) Watershed activities;
- ongoing coordination and staffing of Basin Technical Committee and Basin Executive Committee meetings; and
- Staffing of flood awareness program and flood patrol/monitoring coordination during activations of the King County Flood Warning Center with the Green River cities.





#### **ADMINISTRATIVE EXPENDITURES**

Salaries:	\$ 95,308
Labor Benefits:	\$ 28,900
Materials and Supplies:	\$ 3,569
Fee Simple Land Purchase:	\$ 14,135
WLRD Overhead:	\$ 93,363
Transfer to Designated Fund Balance:	<u>\$ 50,300</u>
TOTAL	\$ 285,575

#### **District Maintenance**

The District's maintenance budget includes all costs for the maintenance and operations of the Black River (P-1), Tukwila (P-17) and Southcenter/Segale pump stations; major river facility repairs and projects; and the annual routine maintenance program. Also, because of the direct permitting connection to the District's major maintenance projects, the expenditures for the preparation and coordination of the Lower Green River Biological Assessment, with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers, are also included in the District Maintenance category.

#### SUMMARY OF ALL DISTRICT MAINTENANCE EXPENDITURES

Pump Station Operations and Maintenance:	\$ 184,993
River Facility Repair Projects (Major Maintenance):	\$ 48,580
Annual Routine Maintenance Program:	\$ 28,104
Preparation of Lower Green River Biological Assessment:	<u>\$ 61,587</u>
TOTAL	\$ 323,264

#### **Pump Station Operations and Maintenance**

The pump station expenditures in 2001 includes one full-time pump station operator to oversee all the operations and maintenance of the Black River, Tukwila and Southcenter/ Segale pump stations. In addition to the routine operations and maintenance, the pump station operator carries out many other activities, including:

- overseeing the seasonal in-migration of anadromous salmon and resident cutthroat trout and steelhead normally between mid-September and January 31<sup>st</sup>, downstream outmigration passage from early April to mid-June;
- coordination of migration data with the cities of Renton and Kent, and the Muckleshoot Indian Tribe:
- grounds and property maintenance; and
- coordination of annual inspections with the City of Renton's Fire Prevention Bureau and the Occupational Safety and Hazard Administration (OSHA) inspections at the Black River pump station.

#### PUMP STATION OPERATIONS AND MAINTENANCE EXPENDITURES

Salaries:	\$ 57,703
Labor Benefits:	\$ 26,435
Labor Overhead:	\$ 24,002
Utilities – Electricity, Natural Gas, Water, Diesel:	\$ 62,215
Materials and Supplies:	\$ 2,794
Contract Maintenance Services:	\$ 4,891
King County Equipment:	\$ 6,273
Permits:	<u>\$ 680</u>
TOTAL	\$ 184,993

#### **Major Maintenance Projects**

For the District's major facility repair maintenance projects, the expenditures include all labor and the associated benefits and overhead charges, materials, supplies and equipment for the completion of the White Swan Revetment repair project (see pages 14 and 15 for more information). Because of the location of this project along the Green River Trail, completion of this project required safety flagging at three sites along the trail for the duration of the project. Therefore, the labor expenditures represent a significant percentage of the project's costs as opposed to more traditional projects in which equipment and material expenditures represent the primary expenditures.

#### **MAJOR MAINTENANCE PROJECT EXPENDITURES**

Salaries:	\$ 18,448
Labor Benefits:	\$ 7,546
Labor Overhead:	\$ 5,886
Materials and Supplies:	\$ 5,718
Contract Services (e.g., Rental Equipment), Permits:	\$ 6,423
King County Equipment:	<u>\$ 4,559</u>
TOTAL:	\$ 48,580





#### **Annual Routine Maintenance Program**

The District's annual routine maintenance program includes non-native vegetation removal and mowing of District facilities including the Tukwila and Horseshoe Bend Section 205 projects as required under the U.S. Army Corps of Engineers' Section 205 Program; noxious weed removal as required to carry out the mandates of state weed control law under Chapter 17.10 RCW; maintenance of access roads to the District's facilities; interpretive sign placement; small repairs and maintenance projects to flap gates and culverts; and watering of native vegetation planted following the 1998–2001 major maintenance projects.

#### ANNUAL ROUTINE MAINTENANCE PROGRAM EXPENDITURES

TOTAL	\$ 28,104
King County Equipment:	\$ 2,398
Contract Services, Permits:	\$ 2,856
Materials and Supplies:	\$ 2,571
Labor Overhead:	\$ 4,156
Labor Benefits:	\$ 4,912
Salaries:	\$ 11,211

#### Lower Green River Biological Assessment and Monitoring Program

The District's 2001 maintenance expenditures also highlight the costs to complete the Lower Green River Biological Assessment as well as the costs to continue a monitoring and assessment program for proposed and completed major maintenance projects.

The Lower Green River Biological Assessment was completed to review the effects of seven proposed levee and revetment repair projects on stocks of lower Green River chinook and coho salmon, bull trout, and bald eagles. The Biological Assessment was prepared in accordance with Section 7(c) of the Endangered Species Act of 1973 to determine whether federally listed or proposed threatened or endangered species and/or candidate species in the project's "action area" could be affected by construction of these projects.

Specifically, Section 7(a) of the Endangered Species Act requires federal agencies to conserve endangered and threatened species. Section 8(a)(2) requires consultations to ensure that any action authorized, funded or carried out by a federal agency is not likely to jeopardize the continued existence of listed, proposed or candidate species or result in the destruction or adverse modification of critical habitat for such species. This includes actions by the Federal Emergency Management Agency, which funds repairs to flood damaged facilities; the U.S. Department of Housing and Urban Development, which funds community development block grants that may be applied to the modification of flood control facilities; and the U.S. Army Corps of Engineers, which permits flood control facility repairs in waters of the United States under the Section 404 program of the Clean Water Act. Section 7(c) of the ESA requires that a Biological Assessment be prepared for construction projects if any of those species or their critical habitats are present in the proposed action area of such projects.

The following seven projects are proposed for construction in the Lower Green River Biological Assessment:

#### LOWER GREEN RIVER LEVEE AND REVETMENT REPAIRS

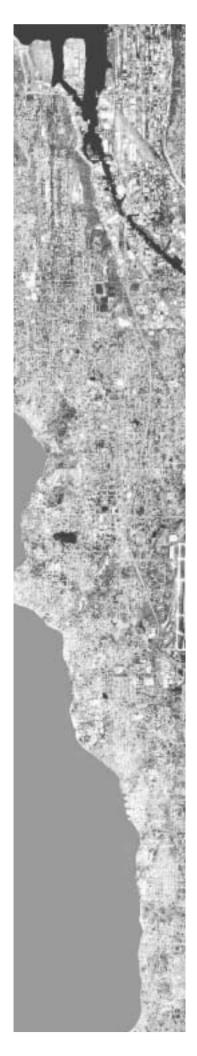
Facility Name	Facility Type	Location	Bank	Lineal
		(River Mile)		Feet
Boeing	Levee	17.8	R	130
Desimone	Levee	15.4-15.6	R	1,300
Fens ter	Hybrid	32.0	L	220
Frager Road	Revetment	18.5	L	175
Narita	Levee	21.2	R	550
Pipeline	Hybrid	21.9	R	500
Segale	Levee	15.4	L	190
TOTAL LINEAL FEET			3,065	

The Lower Green River Biological Assessment was transmitted to the U.S. Army Corps of Engineers, the federal action agency for these seven proposed projects, in February 2001. Due to the backlog of biological assessments pending review and formal consultation at the U.S. Army Corps of Engineers, the Lower Green River Biological Assessment could not be processed in time to construct any of the seven project projects in 2001. However, the processing of the Lower Green River Biological Assessment was completed for three of the seven projects in time for the 2002 construction season.

The monitoring and assessment program is being carried out for two reasons: 1) to further comply with requirements of local, State and Federal permits, specifically the Washington State Hydrologic Project Approval; and 2) to comply with provisions in the Biological Assessment, as established by the letter of concurrence from the U.S. Army Corps of Engineers on the approved 404 permit.

The purpose of the monitoring program is to provide baseline and post-construction data for project performance analysis and fish habitat utilization at project sites so that the District can continue to adequately provide flood protection and further enhance the aquatic health of the Green River and its tributaries. Baseline data of the seven proposed projects in the Lower Green River Biological Assessment was collected in 2001 and used in its preparation. Data collected at previously constructed District projects was also used in the Lower Green River Biological Assessment to assess and demonstrate utilization by salmonids at these sites. Moreover, the data collected will be used during the future development of additional Biological Assessments for major maintenance projects in the lower Green River.





#### **BIOLOGICAL ASSESSMENT & MONITORING PROGRAM EXPENSES**

Salaries:	\$ 26,867
Labor Benefits:	\$ 12,686
Labor Overhead:	\$ 19,954
Materials and Supplies:	\$ 1,032
King County Equipment:	\$ 1,048
TOTAL	\$ 61,587

### 2001 Year-end Fund Balance

As authorized in the District's 2001 budget and work program, \$125,000 of the undesignated fund balance was programmed for construction of major river facility repair projects. However, due to permit approval delays that resulted in postponement of the major river facility repair projects until 2002, the undesignated funds were not used in 2001. Therefore, the 2001 fund balance saw a net increase in the amount of \$369,188 comprised of unexpended revenue, interest income and the annual designated fund balance contribution.

#### **2001 FUND BALANCE ACTIVITY**

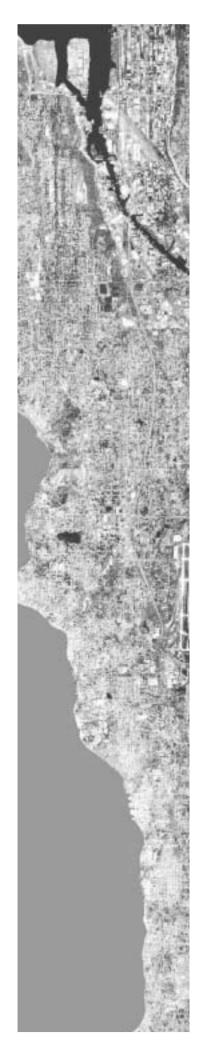
2000 Year End Fund Balance:	\$ 751,694
2001 Unexpended Revenue from Administration and River Repair Projects – Undesignated Fund Balance:	\$ 262,204
Annual Contribution to Designated Fund Balance:	\$ 50,300
Interest Income–Contribution to Undesignated Fund Balance:	<u>\$ 56,684</u>
2001 YEAR END FUND BALANCE:	\$ 1,120,882
NET INCREASE TO FUND BALANCE	\$ 369,188

#### **Designated Fund Balance**

On July 19, 1993 the King County Council, acting as the Green River Flood Control Zone District's Board of Supervisors, passed Resolution No. GR1993-2 to set aside, or "designate," an initial amount of \$94,230 from the District's undesignated fund balance for two specific purposes:

- 1) future use as local match for federal and state disaster assistance funding and grants following Presidential-declared flood disaster events; and
- 2) repair, replacement and upgrades of equipment at the Green River pump stations.





Resolution No. GR1993-2 also established a process whereby \$50,300 in District funds are set aside annually: \$11,000 for local flood match and \$39,300 for pump station equipment repair, replacement and upgrades. These designations were consistent with the recommendation approved by the Green River Basin Executive Committee on November 19, 1992. The designated funds are based on the estimated need for equipment replacement at the pump plants and estimated local match for obtaining federal/state disaster funds for river facility repairs.

Local flood match and pump station repair designations to date total \$108,607 and \$388,023, respectively, for a combined total of \$496,630; the totals include the 2001 contributions. These designations are consistent with the Green River Basin Executive Committee and Basin Technical Committee recommendations in 1992.

Below is a table of the designated fund balance activity since its inception in 1993:

#### **DESIGNATED FUND BALANCE**

Year	Flood Match	Equipment	Annu al Total	Total to Date
1993	\$ 20,607	\$ 73,623	\$ 94,230	\$ 94,230
1994	\$ 11,000	\$ 39,300	\$ 50,300	\$ 144,530
1995	\$ 11,000	\$ 39,300	\$ 50,300	\$ 194,830
1996	\$ 11,000	\$ 39,300	\$ 50,300	\$ 245,130
1997	\$ 11,000	\$ 39,300	\$ 50,300	\$ 295,430
1998	\$ 11,000	\$ 39,300	\$ 50,300	\$ 345,730
1999	\$ 11,000	\$ 39,300	\$ 50,300	\$ 396,030
2000	\$ 11,000	\$ 39,300	\$ 50,300	\$ 446,330
2001	<u>\$ 11,000</u>	<u>\$ 39,300</u>	<u>\$ 50,300</u>	\$ 496,630
TOTAL	\$108,607	\$388,023	\$496,630	

#### **Undesignated Fund Balance**

Additional District fund balance revenues beyond the \$50,300 designated annually are to be used to supplement Green River maintenance activities. These funds and additional income such as that from interest, grant revenue or property sales are set aside in the undesignated fund balance for future District needs. As of December 31, 2001 \$624,252 was set aside in the undesignated fund balance.

Because of the outstanding maintenance needs in the District, the undesignated fund balance – as well as the designated fund balance for local flood match – provide an extremely important means of supplementing the District's limited ability to complete necessary repair projects using only the annual levy revenues. With the decrease in federal and state funds available for major river repair projects, the fund balance will enable the District to continue to address a backlog of existing facility damage; seven of these projects are proposed for construction in the Lower Green River Biological Assessment. The fund balance also provides additional flexibility to respond to future

flood events and new programs and requirements imposed upon the District's work program, such as the additional requirements imposed as a result of the listing of Puget Sound chinook and bull trout under the Endangered Species Act and the inflationary costs on materials and project construction.

As shown in the table below, the District's total designated and undesignated fund balance at the end of 2001 is \$1,120,882. As stated above, \$496,630 of this total has been designated for local flood match and pump station purposes since 1993. This leaves the balance of \$624,252 as undesignated fund balance. However, a total of \$575,000 of the undesignated fund balance was authorized to supplement the 2002 maintenance budget. This is will leave an estimated balance of \$49,252 at the end of the 2002 fiscal year, not including interest income, grant reimbursements or other sources of revenue that may yet be received. A more complete discussion of the 2002 budget follows on pages 26 band 27.

#### **2001 FUND BALANCE SUMMARY**

Designated Fund Balance as of 12/31/01:	
• Local Flood Match Funds	\$ 108,607
Pump Station Equipment Funds	\$ 388,023
Undesignated Fund Balance as of 12/31/01:	<u>\$_624,252</u>
TOTAL FUND BALANCE AS OF 12/31/01	\$ 1,120,882





## 2002 Budget and Goals

The Green River Flood Control Zone District's 2002 budget was approved by the District's Board of Supervisors on November 19, 2001 by Resolution No. GR 27. The levy rate for 2002 is 0.4846, or \$0.04846 per \$1,000 of assessed value; a property assessed at \$200,000 would therefore pay approximately \$9.69 per year. Due to recent statewide tax initiatives and steadily rising assessed values of properties throughout King County, the levy paid by property owners in the District has been steadily declining in recent years. Based on this levy rate, 2002 collection are expected to total \$830,782.

The District's authorized budget also specifies that up to \$575,000 out of the District's undesignated fund balance is allocated to supplement the District's 2002 budget for major river facility repair projects, and \$50,000 of the District's designated fund balance is allocated for potential performance upgrades at the Black River Pump Station. Below is a summary of the District's total revenue in 2002:

#### **2002 REVENUE**

Green River Flood Control Zone District Levy:	\$ 830,782
Undesignated Fund Balance:	\$ 575,000
Designated Fund Balance:	<u>\$ 50,000</u>
TOTAL REVENUE	\$1,455,782

The District's budget authorized by Resolution No. GR 27 specifies how projected revenue from the District levy will be disbursed. Consistent with the requirements of RCW 86.15.140, the District's budget is categorized as follows:

#### **2002 EXPENDITURES**

Administration and Overhead:	\$ 299,153
Pump Station Operations and Maintenance:	\$ 243,537
Designated Fund Balance Reserve Contribution	
• Local Flood Match Funds:	\$ 11,000
Pump Station Repair and Maintenance Funds:	\$ 39,300
River Facility Repairs and Annual Maintenance:	\$ 850,544
Accrual to Undesignated Fund Balance:	<u>\$ 12,248</u>
TOTAL EXPENDITURES	\$ 1,455,782

Expenditures of \$299,153 for administration and overhead include all costs for management, engineering coordination and implementation of the Green River Flood Control Zone District work program. The pump station expenditures of \$243,537 for staffing, operating and maintaining the Black River (P-1), Tukwila (P-17) and Southcenter/Segale pump stations includes \$50,000 from the designated fund balance to perform potential performance upgrades. The annual contribution of \$11,000 and \$39,3000 for local flood match and pump station repairs and maintenance, respectively, is programmed for the District's designated fund balance. The largest percentage of the District's expenditures in the amount of \$850,544 will fund the District's major flood protection facility repairs, annual maintenance and monitoring programs. Lastly, the balance of \$12,248 from revenues will accrue in the District's undesignated fund balance to be used in 2003 for river facility repairs.

The 2002 goals for the Green River Flood Control Zone District and the Green River Basin Program include the following:

- Construct high priority river facility repairs and other river repair projects, and continue
  the annual routine maintenance program. Continue communication with the
  recreational river users on lower Green River projects and programs that may affect
  boating.
- Oversee and facilitate the Section 7 Endangered Species Act review of the seven projects proposed for construction between 2002–2005 in the Lower Green River Biological Assessment. Pursue concurrence from the National Marine Fisheries Service and U.S. Fish and Wildlife Service as needed.
- Administer 2001-2003 Washington State Department of Ecology Flood Control Assistance Account Program grant funds in the amount of \$64,000 that were awarded for the completion of the Desimone Levee repair project.
- Provide operation and maintenance to the Green River pump stations to King County standards consistent with the Pump Operations Procedures Plan to ensure optimal operating conditions. Continue fish migration monitoring at Black River pump station.
- Conduct spring and fall river maintenance assessments and prioritize flood damage repair projects. Continue to monitor and evaluate river facilities unrepaired following the November 1995 and February 1996 flood events, including the seven projects proposed for construction in the Lower Green River Biological Assessment.
- Staff 2002 Flood Patrols and complete River Facility Damage Assessments as needed during flood events and other disaster related events. Continue implementation of the Post-Flood Recovery Plan for the Lower Green River Basin and Lower Green River Flood Response Manual to enhance flood response and coordination between King County, the U.S. Army Corps of Engineers, and the Green River cities.
- Work with the U.S. Army Corps of Engineers on operations of Howard Hanson Dam to coordinate and improve the level of downstream flood protection and limit the impacts on District maintained flood protection facilities.
- Support the U.S. Army Corps of Engineers' Green-Duwamish Ecosystem Restoration Project efforts for proposed project affecting District's facilities.





- Complete annual reports for the Tukwila and Horseshoe Bend 205 Projects for the U.S. Army Corps of Engineers.
- Coordinate District activities with other WRIA 9 committees, projects and programs on salmon recovery plans and activities in response to the Endangered Species Act.
- Continue monitoring and assessment program initiated in 2000 to provide greater baseline and post-construction habitat utilization data at proposed and completed project sites.
- Coordinate the continuation of a risk-based analyses to more accurately determine flooding potential in the District as a result of levee and revetment instability. The next phase will include collection of channel characterization data and base topographic maps by the Puget Sound LIDAR Consortium. Grant funds from the Federal Emergency Management Agency's Map Modernization Program will be pursued to complete updated floodplain maps.
- Complete final interlocal agreement through BTC reviews for submittal to respective city and county councils for action for the continuation of the administration of the Green River Flood Control Zone District.
- Coordinate ongoing Basin Technical Committee and Basin Executive Committee meetings.
- Complete the Green River Flood Control Zone District's 2001 Annual Report.
- Support King County Rivers Section's on the composition of the updated Flood Hazard Reduction Plan, implementation of King County's Community Rating System, development of a six-year Capital Improvement Plan, and other District projects and programs as needed.
- Coordinate, author and support local efforts by the cities of Auburn and Renton to update floodplain mapping for tributaries to the Green River lying within the District.
- Develop a conceptual plan for levee setbacks and riparian corridor restoration opportunities affecting District-maintained facilities.



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